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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No.: 10/574,169   :   PATENT APPLICATION

In re application of: :
   CHRISTIAN SCHEERING

Filed: March 29, 2006   :   **VERIFICATION OF THE**
                                    AVAILABILITY OF A SERVER

Examiner: Joe Chacko   :

Group Art Unit: 2456   :

Confirmation No.: 4121   :

Attorney Docket No.: 2003P07837WOUS   :

AMENDMENT

Pittsburgh, Pennsylvania 15219
February 18, 2010

Commissioner for Patents
P. O. Box 1450
Alexandria, Virginia 22313-1450

Commissioner:

      Please amend this application as follows:

      Amendments to the Claims are reflected in the listing of claims which begins on page 2

of this paper.

      Remarks/Arguments begin on page 7 of this paper.

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Amendment dated February 18, 2010
Response to Office Action dated December 21, 2009

Amendments to the Claims

1-8. (Canceled)

9. (Previously Presented) A method for verifying an availability of a server comprising:

transmitting an availability request by a first client to the server;

the first client receiving a response to the availability request;

the first client transmitting a message regarding an availability of the server to a plurality of predefinable other clients; and

preventing transmission of any availability requests by the plurality of predefinable other clients to the server for at least a prescribable period of time.

10. (Previously Presented) The method as claimed in claim 9, wherein the method is used for verifying availability of the server in a packet-oriented communication network.

11. (Previously Presented) The method as claimed in claim 9, wherein data is transmitted between the server and the first client and the predefinable other clients by a connectionless switching control.

12. (Previously Presented) The method as claimed in claim 9, wherein the message regarding the availability of the server is transmitted by the first client to the plurality of predefinable other clients using a multicast message.

13. (Previously Presented) The method as claimed in claim 9, wherein the first client sends a message regarding an availability of the server to only the plurality of predefinable other clients within a same subnetwork.

14. (Previously Presented) The method as claimed in claim 9, wherein the first client executes the availability request at a time which is predefined by a first timer.

15. (Previously Presented) The method as claimed in claim 14, wherein the first timer is reset to a predefinable value after the response to the availability request is received by the first client.

16. (Previously Presented) A control program loaded into a random access memory of a client and having code comprising:

a first code portion configured to cause the client to transmit an availability request to a server;

a second code portion configured to cause the client to monitor for a receipt of a confirmation message responding to the availability request if the server is available; and

a third code portion configured to cause the client to transmit a message regarding an availability of the server to a plurality of predefinable other clients, the message regarding the availability of the server configured to prevent a transmission of availability requests by the predefinable other clients to the server for a predefinable period of time.

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17. (Canceled)

18. (Previously Presented) A client of a communication network comprising:

a first device configured to transmit an availability request to a server;

a second device configured to monitor for receipt of a response comprising a confirmation message responding to the availability request if the server is available;

a third device configured to transmit a message regarding an availability of the server to a plurality of predefinable other clients, the message regarding the availability of the server configured to prevent a transmission of an availability request by any of the predefinable other clients to the server for a predefinable period of time if the confirmation message responding to the availability request is detected by the second device.

19. (Previously Presented) The method of claim 9 further comprising the first client checking to determine whether the server is at least able to respond to the availability request with an unavailability message if no confirmation message is received by the first client.

20. (Currently Amended) The method of claim 9 further comprising the first client transmitting a negative ~~server~~ availability message to the predefinable other clients if the server provided an unavailability message or if the server did not respond to the availability request within a predetermined amount of time after the availability request was sent to the server.

21. (Previously Presented) The method of claim 9 further comprising the first client receiving keep alive data from the predefinable other clients.

22. (Previously Presented) The method of claim 9 further comprising one of the predefinable other clients transmitting a collective availability request to the server if no multicast collective request has been received by that client within a predefined time period.

23. (Previously Presented) The method of claim 9 further comprising the first client storing keep alive data received from the predefinable other clients.

24. (Previously Presented) The client of claim 18 further comprising a fourth device configured to monitor for receipt of a message from one of the predefinable other clients regarding availability of the server.

25. (Previously Presented) The client of claim 18 further comprising a fourth device configured to store keep alive data received from the predefinable other clients.

26. (Previously Presented) The client of claim 18 wherein the message regarding the availability of the server is a negative multicast availability message if an availability message is not received from the server within a predetermined time period after the availability request is sent to the server.

27. (Previously Presented) The client of claim 18 wherein the first device is also the third device and the first device is a transmitter or a transmission mechanism.

28. (Previously Presented) The client of claim 18 wherein the first device, second device and third device are interconnected portions of the client.

29. (Previously Presented) The client of claim 18 further comprising a fourth device configured to monitor for reception of a message from a prescribable further client about server availability and also configured to prevent transmission of an availability request to the server at least for a prescribable time interval after receipt of such a message.

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REMARKS

As may be appreciated from the above listing of claims, claim 20 was amended herein. The amendment to the claim 20 should be entered as it clarifies issues for appeal and does not add to any burden by the Examiner.

Authorization is provided herewith to pay any underpayment of fees or credit any overpayment of fees to Deposit Account No. 02-4800.

I.   RESPONSE TO REJECTION OF CLAIMS 20 AND 26 UNDER 35 U.S.C. § 112

Claims 20 and 26 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement in the Office Action dated December 21, 2009 (hereafter "Office Action"). (Office Action, at 2). To the contrary, both claims 20 and 26 are supported by the specification of the present application.

The Examiner contends that the term "negative server availability message" and "negative multicast availability message" were not originally recited in the application and, as a result, the application cannot support these terms. To the contrary, such claim terms are supported in the specification. For example, at paragraph 44 the specification states "negative multicast availability message." Figure 3 also uses this term. Paragraph 43 in the specification states "the respective requesting client transmits a negative multicast availability message to the predefinabile other clients" Thus, the use of the "negative multicast availability message" term in claim 26 has antecedent basis in the specification and is supported by the specification.

Claim 20 also provided support for the "negative server availability message" term. For instance, paragraph 43 states "the respective requesting client transmits a negative multicast availability message to the predefinabile other clients" in the event "a selected server has

signaled its unavailability or has not sent any response to the collective availability request."

The negative multicast availability message may be a negative server availability message.

Nevertheless, claim 20 has been amended herein to resolve this issue. Claim 20 as amended

herein now uses the term "negative availability message." This term is supported at paragraphs

43 and 44 of the specification and is also supported in step 313 of Figure 3.

1.   The Examiner Improperly Did Not Consider Terms In The Claims

In the Office Action, the Examiner stated that "for examination purposes" the "negative

server availability message" and "negative multicast availability message" would "not be

considered." (Office Action, at 3). This is improper. The Examiner is required to consider these

terms to examine the claims. MPEP § 2143.01.

It is impermissible for an examiner to not consider claim terms in issuing rejections under

35 U.S.C. § 103. *See* MPEP § 2143.01. Explicitly, the MPEP states that "A claim limitation

which is considered indefinite cannot be disregarded. If a claim is subject to more than one

interpretation, at least one of which would render the claim unpatentable over the prior art, the

examiner should reject the claim as indefinite under 35 U.S.C. 112, second paragraph (see MPEP

§ 706.03(d)) and should reject the claim over the prior art based on the interpretation of the claim

that renders the prior art applicable. Ex parte Ionescu, 222 USPQ 537 (Bd. Pat. App. & Inter.

1984)."

Accordingly, Applicants request that the Examiner reconsider claims 20 and 26. When

all terms of these claims are considered, claims 20 and 26 are patentable.

II.   **RESPONSE TO THE REJECTION OF THE CLAIMS UNDER 35 U.S.C. § 103**

In the Office Action, the Examiner rejected claims 9-11, 13-16 and 18-29 as obvious in view of the combination of U.S. Patent Application No. 2002/0129150 to Jung and U.S. Patent Nos. 6,163,855 to Shrivastava et al. (Office Action, at 3). Claim 12 was rejected as obvious in view of Jung, Shrivastava et al. and U.S. Patent Application Publication No. 2002/0165964 to Chen et al. (Office Action, at 7).

A.   **Burden Of Proving Obviousness Under 35 U.S.C. § 103**

"**All words in a claim must be considered in judging the patentability of that claim against the prior art.**" MPEP § 2143.03 (emphasis added). "When evaluating claims for obviousness under 35 U.S.C. 103, **all the limitations of the claims must be considered and given weight**." MPEP § 2143.03. "If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious." *Id.* "A 35 U.S.C. 103 rejection is based on 35 U.S.C. 102(a), 102(b), 102(e), etc. depending on the type of prior art reference used and its publication or issue date." MPEP § 2141.01.

To establish a *prima facie* case of obviousness, an Examiner must show that an invention would have been obvious to a person of ordinary skill in the art at the time of the invention. MPEP § 2141. "Obviousness is a question of law based on underlying factual inquiries." *Id.* The factual inquiries enunciated by the Court include "ascertaining the differences between the claimed invention and the prior art" and "resolving the level of ordinary skill in the pertinent art." MPEP § 2141.

"A statement that modifications of the prior art to meet the claimed invention would have been '<u>well within the ordinary skill of the art</u> at the time the claimed invention was made' because

the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references." MPEP § 2143.01. "[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, **there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.**" MPEP § 2143.01 (citing *KSR*, 82 USPQ2d at 1396) (emphasis added).

For instance, an invention that permits the omission of necessary features and a retention of their function is an indicia of nonobviousness. *In re Edge,* 359 F.2d 896, 149 U.S.P.Q. 556 (CCPA 1966); MPEP 2144.04. A conclusory statement to the contrary is insufficient to rebut such an indicia of nonobviousness. *See* MPEP § 2143.01.

Moreover, "[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious." MPEP § 2143.01. Also, "the proposed modification cannot render the prior art unsatisfactory for its intended purpose." MPEP § 2143.01.

B.   **Claims 9-15 And Claims 19-23 Are Not Rendered Obvious By The Cited Art**

Claim 9 requires a method for verifying an availability of a server to include transmitting a message regarding an availability of the server by a first client to a plurality of predefinable other clients and preventing the transmission of any availability request by the predefinable other clients to the server for at least a prescribable period of time. Claims 10-15 and 19-23 depend directly or indirectly from claim 9 and, therefore, also contain these limitations.

The Examiner correctly reads Jung as not including any teaching or suggestion of transmitting a message regarding an availability of the server by a client to other clients nor the prevention of a transmission of an availability request to the server by other clients for a predefinable period of time. (Office Action, at 4). However, the Examiner has construed Shrivastava et al. as teaching or suggesting such requirements. (Office Action, at 4).

1.   **Shrivastava et al. Do Not Teach Or Suggest Prevention of Availability Request Transmissions By Predefinable Other Clients**

Shrivastava et al. disclose a system for communicating modification information to servers in a server cluster. (Abstract). The Examiner has asserted that Column 5, lines 25-37 suggest that availability request transmission be prevented. (Office Action, at 3). To the contrary, this portion of Shrivastava et al. makes it clear that no availability requests transmissions of predefinable other clients are prevented.

Shrivastava et al. teach that during a regroup event, systems within a cluster 58 are checked to determine if a system can communicate with the other members of the cluster 58. (Col. 5, lines 34-36). Such communication verification is performed by the communications manager 76, which is configured to send "periodic messages, called heartbeats, to counterpart components on the other systems of the cluster 58 to provide a mechanism for detecting that the communications path is good and that the other systems are operational." (Col. 5, lines 18-21).

In the event a failure is detected, a message is broadcast to a cluster to cause "other members to verify their view of the current cluster membership." (Col. 5, lines 29-32). Shrivastava et al. refer to this as a "regroup event" and requires membership to be stabilized before writing to shared devices occurs.

Shrivastava et al. clearly do teach or suggest that availability requests be sent between cluster members, or servers, even during a regrouping event that creates a stoppage of writes to potentially shared devices. Indeed, Shrivastava et al. teach that the monitoring of the communication paths via such availability requests are central to the ability of the servers in the cluster 58 to ensure communications paths are good and the other systems are operational. (Col. 5, lines 29-32).

As should be appreciated from the above, Shrivastava et al. clearly do not teach or suggest any prevention of sending availability requests to other predefinable clients. To the contrary, Shrivastava et al. teach all servers within a cluster must verify their cluster membership via periodic messages to ensure operational communication paths are maintained. (Col. 5, lines 10-37).

As noted in the Office Action, Jung does not teach or suggest the prevention of transmitting availability requests to a server by other predefinable clients as required by claims 9-15 and 19-23. Therefore, the combination of these references also fails to teach or suggest this limitation. None of the cited art teaches or suggests such prevention of availability request messages. Therefore, the cited art cannot render claims 9-15 and 19-23 obvious.

> **2.   Shrivastava et al. Teach Away From Preventing Transmission Of Availability Requests By Predefinable Other Clients**

Shrivastava et al. teach that the monitoring of the communication paths via periodic messages exchanged between servers within a cluster is necessary to ensure communication paths are good and the other systems are operational. Shrivastava et al. also teach that such messaging must be exchanged during regroup events to ensure failed systems are failed over or handed off to one or more active systems. Such teaching is opposite the limitations of claims 9-

15 and 19-23, which require that transmission of availability requests to a server by other clients be prevented to reduce the load on a server. Shrivastava et al. clearly teach away from such a requirement.

3. Granted European Patent No. EP 1 668 866 Is An Indicia Of Nonobviousness

EP 1 668 866 is a European patent that is related to the present application. The European Patent Office reviewed the prior art and found that the application submitted by applicant warranted patent protection and granted a patent to the assignee of the present application that contained claims having a similar scope to the claims presented herein. A copy of this patent was provided to the Examiner with the Amendment dated July 8, 2009.

For at least the above discussed reasons, pending claims 9-15 and 19-23 are not rendered obvious by the cited art. Reconsideration and allowance of these claims is respectfully requested.

C. Claims 16, 18 And 24-29 Are Not Rendered Obvious By The Cited Art

Claim 16 requires a control program loaded into a RAM of a client to have code that causes the client to transmit a message regarding an availability of the server to a plurality of other clients. This message is configured to prevent transmission of availability requests by predefinable other clients to the server for a predefinable period of time.

Claim 18 requires a client to include a device configured to transmit a message regarding an availability of the server to a plurality of predefinable other clients. This message is configured to prevent a transmission of an availability request by any of the predefinable other clients to the server for a predefinable period of time if the confirmation message responding to the availability request is received by the client.

As discussed above with reference to claim 9, the cited art fails to teach or suggest a client having a device or program that is configured to prevent transmission of availability requests by other clients to the server for a time period. Indeed, the cited combination of art teaches away from such a client.

D.   Claim 22 Is Allowable

Claim 22 depends from claim 9 and requires that one of the predefinable other clients transmit a collective availability request to a server if no multicast collective request has been received by that client within a predefined time period. None of the references cited by the Examiner teach or suggest such a requirement. Therefore, claim 22 is patentable over the cited art.

The Examiner contends that a router CPE disclosed by Jung is a client configured to monitor for receipt of a message from another client regarding the availability of a server. (Office Action, at 6). To the contrary, Jung does not disclose any waiting time period or other predefined time period before a client transmits a collective availability request to a server if no multicast collective request has been received within that predefined time period. Indeed, paragraph 67 of Jung, which the Examiner relies on to reject claim 22 explicitly states that a home agent HT should send a message to a mobile node if it does not receive a message within the life of an authentication lifetime. Such messaging teaches away from claim 22 since no multicast message is sent to a server after failure to receive a message within a time period.

E.   Claim 24 Is Allowable

Claim 24 depends from claim 18 and requires a client to include a fourth device that is configured to monitor for receipt of a message from one of the predefinable other clients

regarding availability of the server. None of the cited references teach or suggest a client that includes a monitoring device configured to detect a message from another client that relates to server availability. Therefore, claim 24 is allowable over the cited art.

The Examiner relies on paragraph 67 of Jung to reject claim 24. (Office Action, at 6). The Examiner contends a CPE router that monitors for messages is a fourth device of a client. To the contrary, a router is not a device of a client. The router is a separate device that is not included within a client, which the Examiner has construed as a mobile node (MN) (Office Action, at 4). The CPE router is not a device of the mobile node MN. (Jung, Figure 20).

F. Claim 29 Is Allowable

Claim 29 depends from claim 18 and further requires a client to include a fourth device configured to monitor reception of a message from another client about server availability and be configured to prevent transmission of an availability request to the server at least for a prescribable time interval upon receipt of such a message. None of the cited references teach or suggest such a fourth device or the prevention of the transmission of an availability request to a server upon receiving a server availability message from another client. Therefore, claim 29 is allowable over the cited art.

The Examiner relies upon paragraph 67 of Jung and the CPE router disclosed by Jung as some how rendering claim 29 obvious. As discussed above with reference to claim 24, Jung does not disclose a fourth device of a client.

Further, Jung does not disclose a device of a client that is configured to prevent transmission of an availability request to a server at least for a prescribable time interval upon receipt of a message from another client about server availability. For example, if a server is

determined to be available, the MN 10 conducts a location registration for VPN service. (Jung, paragraphs 68-69).

III.   CONCLUSION

For at least the above reasons, reconsideration and allowance of all pending claims is respectfully requested.

Respectfully submitted,

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